In the Specification

Please replace the paragraph beginning at page 14, line 15 with the following:

Figs. ~~14 14A~~ 14A-14B show a technique for learning a model or set of models which provides good classification of images for a part type.

Please replace the paragraph beginning at page 14, line 18 with the following:

Fig. ~~14B~~ 14C shows a histogram of number of occurrences of scores having two curves fit through the data points.

Please replace the paragraph beginning at page 44, line 20 with the following:

Referring now to Figs. ~~14 14B~~ 14A-14C, a technique for learning a model which provides good classification of images for a part type is shown. The process begins with step 230 in which a model for a part type is selected from a set of model types. The model can be an image model, a structural model or a geometry model. While each of these models may be learned independently, we currently learn an image and a structural model together.

Please replace the paragraph beginning at page 45, line 26 with the following:

Referring briefly to Fig. ~~14B~~ 14C for example, two histograms of number of occurrences of scores is shown. Each element on the X axis denotes a range of scores. The Y axis denotes the number of appearances of that score or range of scores. Curve 254 corresponds to a gaussian fit to histogram of the placed image scores and curve 256 corresponds to a gaussian fit to the histogram the paste image scores. Point 258 represents an outlier on the placed image score. That is, point 258 corresponds to a point which was not included in the computation used to produce curve 254. Similarly,

point 260 represents an outlier on the paste image score and thus point 258 corresponds to a point which was not included in the computation used to produce curve 256.

Please replace the paragraph beginning at page 46, line 6 with the following:

Referring again to Figs. ~~14 and 14A~~14A and 14B, processing proceeds to step 244 in which a separation function is computed. The manner in which the separation function is computed depends upon a variety of factors including but not limited to the type of model which was selected in step 230, the characteristics of the placed and paste images and the particular type of application in which the model is being used. For, example in an application such as a printed circuit board inspection process where the model corresponds to an image model, the separation function may is generated from scores of a correlation function. The scores may be generated from any model matching method. For instance, the model may be of a face with a complex matching function. The resulting scores may input into the same process to generate a separation function as described in step 244.

Please replace the paragraph beginning at page 48, line 25 with the following:

It should be noted that in Figs. 1 and ~~14A~~14B only two types of diagnosis are assumed to be available: part there, part not there. We may, however, have other classes that we would like to represent such as part damaged, wrong part, paste smudged. We can either compute a distribution of scores for each of these labeled images or generate a more complex function to classify a new image, if the new measured image falls in between the true placed and the true placed.